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USPTO P 3/12

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JUN 25 2007

REPLACEMENT SHEETS are submitted herewith in which legends are supplied
for Figs. 1 and 2.

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REMARKS

The Office Action of 02/08/2007 has been carefully considered. Reconsideration in view of the foregoing amendments and the present remarks is respectfully requested.

REPLACEMENT SHEETS in which appropriate legends are supplied for the figures as required are attached hereto.

Claims 1-5 and 12-14 were rejected as being unpatentable over Nokes in view of Popper. The claims have been amended to more clearly distinguish over the cited references. Reconsideration is respectfully requested.

The rejection admits that "Nokes fails to disclose means for storing an impulse wavelet representation means for introducing the stored representation of the impulse wavelet to the detected received impulse so as to counteract the effect thereof within the received signal."

With respect to Popper, Popper is similar to the present invention only in that each attempts to reduce noise by subtracting an estimate of the noise from the received waveform. This basic approach to noise reduction is well known. The respective techniques for generating the estimate of the noise waveform and applying it to the received signal are quite different.

Popper relates to a noise reduction technique for ingress noise. The frequency content of ingress noise is much narrower than the bandwidth of the device it pollutes. So the noise waveform is characteristic of the noise source and is not much affected by the frequency response of the device being polluted.

More particularly, in Popper the noise is assumed to be repetitive and so can be estimated from past samples. The estimate is generated by a weighted summation of first estimates of current and past noise contributions held, typically in a shift register. The weighting process is adaptive and adjusts to optimise performance. The noise is assumed ongoing and cyclic and the cancellation process is continuous.

The present invention, on the other hand, deals with impulsive noise. The frequency content of an impulsive noise event is very wide. (Theoretically it is inversely proportional to frequency.) This means it is usually much wider than the channel it is polluting. As a result, the waveform created by an impulsive noise event is determined largely by the characteristics of the receiving device and not so much by the characteristics of the generating device.

In the case of the present invention the noise is expected to occur randomly but each occurrence produces a predictable effect. Each occurrence can be detected and measured by a correlation process. The known effect of an occurrence is then suitably scaled and subtracted from the received signal.

In order to make the foregoing differences more clear, the claims have been amended to recite storing an impulse wavelet representation *characteristic of an impulsive noise event*. The claims have further been amended to recite that the stored representation of the impulse wavelet is combined with the detected received impulse *only if an interference impulse is determined to be present in the received signal*. These features stand in stark contrast to the operation of Popper.

Withdrawal of the rejections and allowance of claims 1-16 is respectfully requested.

Respectfully submitted,



Michael J. Ure, Reg. 33,089

Dated: 05/16/2007

REPLACEMENT SHEET

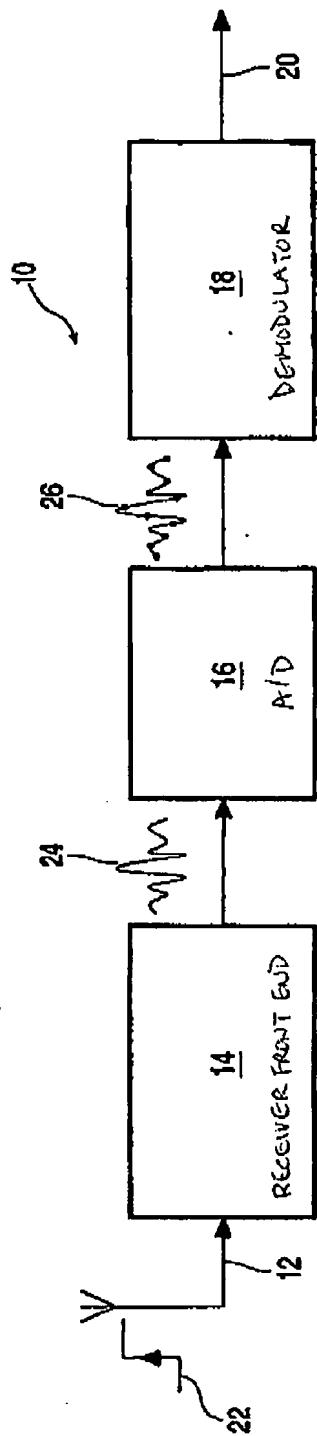


FIG.1